



Status of OMI on-ground data processing

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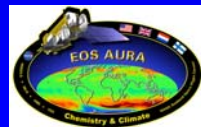
Marghi Hopkins
Adnet Systems Inc., Lanham MD.

What has been done since Boulder 2006?



All the work has been related to reprocessing the OMI L0 data:

- November 2006:
Performed OSIPS-S4PA and ODPS-S4PA interface test (including stress and error testing) in preparation for the S4PA mini-MOSS test.
- December 2006:
Participated in the S4PA mini-MOSS test.
- March 2007:
Performed a Reprocessing Readiness Test.
- March 19th - September 12th 2007:
OMI Reprocessing Campaign, generating Collection 3 L1b data for the whole OMI mission.
- September 24th 2007 onward:
Started generating Collection 3 L2 data products (both Dutch and US) in forward stream.
- End of September/Beginning of October 2007:
Public release of the Collection 3 L1b data for the whole OMI mission (pending OSAB approval).



What still needs to be done?

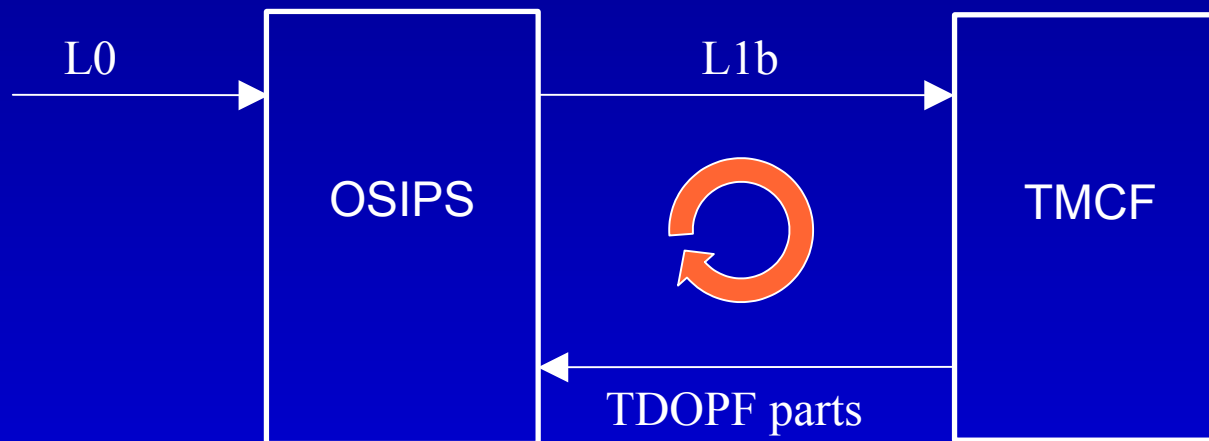
- October 2007:
Stop ECS2 L0 → L1b forward data processing on OSIPS.
Consequence: OSIPS will not run L2 products in forward stream that have not been delivered for Collection 3.
- Fall 2007:
Start generating NRT stream for various Collection 3 L2 data products.
- Fall 2007:
Stop generating NRT stream for various ECS2 L2 data products.
- Before end 2007:
Production and release of the new Collection 3 L2 data products for the whole OMI mission.
All products that were already publicly released for ECS2 will also be publicly released for Collection 3.

Why was reprocessing necessary?

- The GDPS (L0→L1b processing software running on the OSIPS) contains an improved straylight algorithm.
- The Operational Parameter File (containing all the calibration parameters) is now time dependant (TD-OPF), defining the calibration status of OMI on a daily basis.
- Up to now, several versions of the GDPS S/W and OPF were used, resulting in an inconsistent data collection; reprocessing has created a new, consistent, data collection.
- Reprocessing the L0 data has resulted in a highly improved quality of the L1b data and hence of the L2 data.

The Time Dependent Operational Parameter File

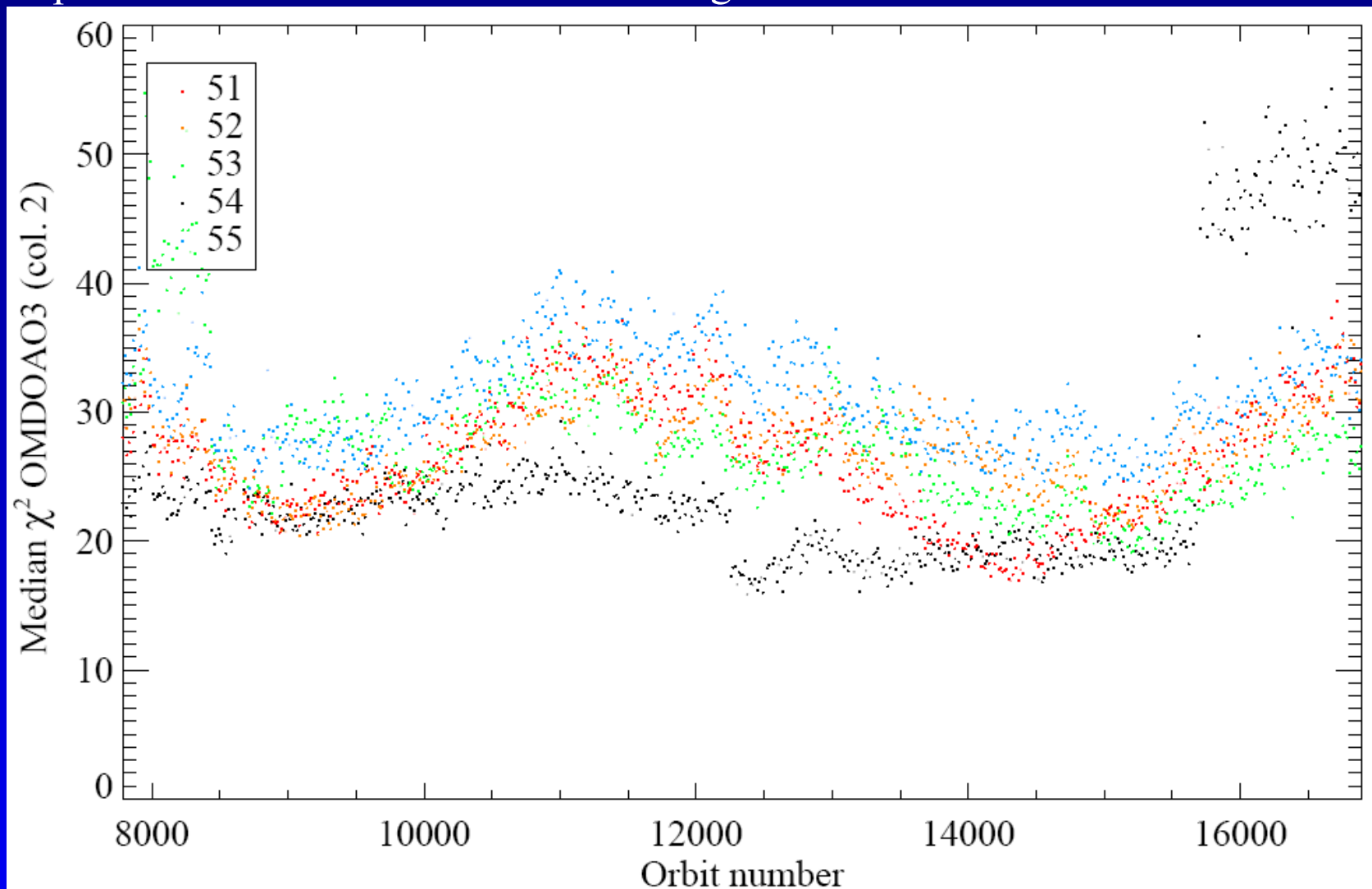
- The Trend and Monitoring In-Flight Calibration Facility (TMC@KNMI) generates the Time Dependent OPF (TDOPF):



- The very many calibration parameters in the TDOPF are frequently updated (daily, weekly, monthly,...) in a highly automated and efficient way.

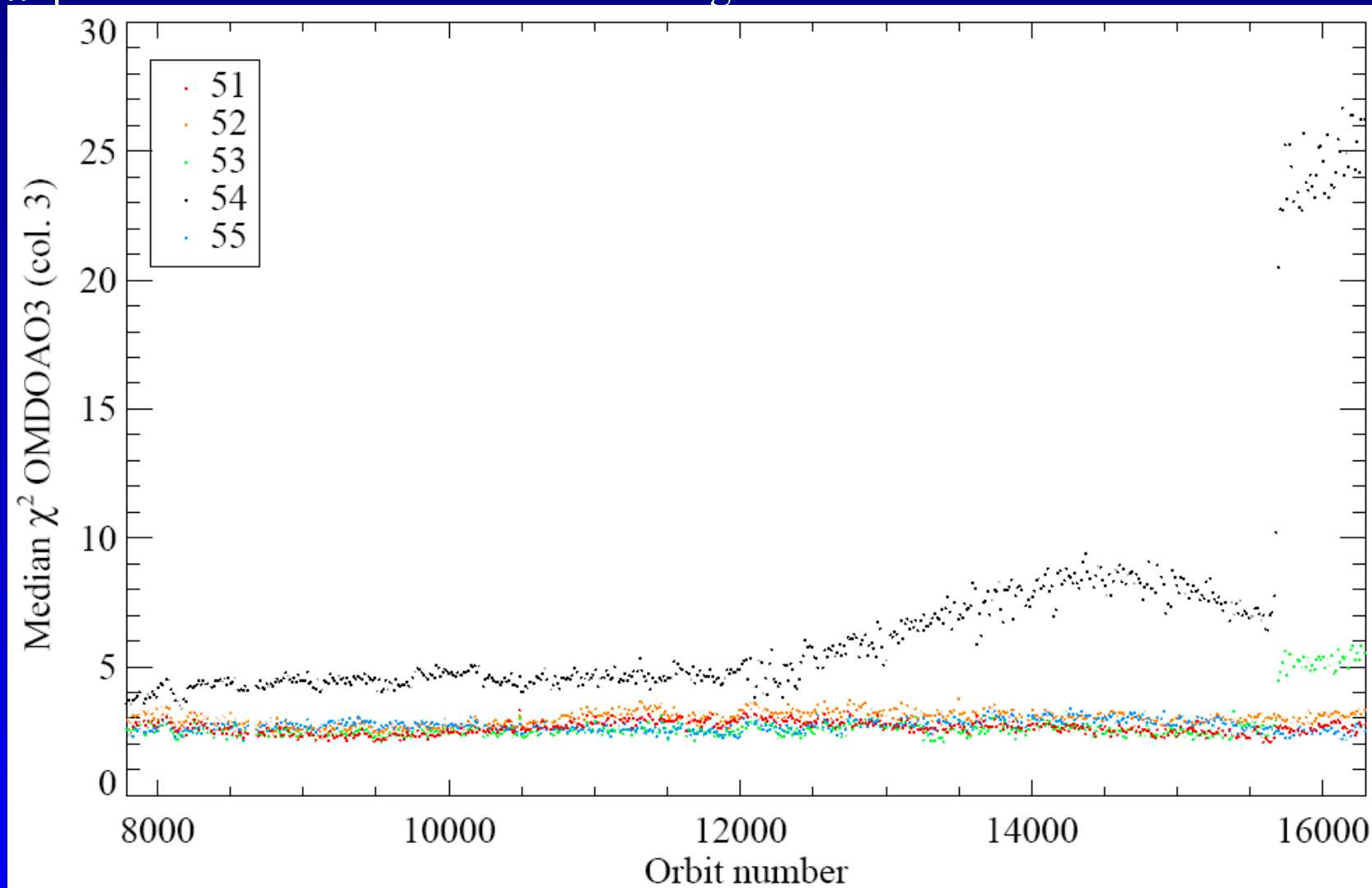
Quality old ECS2 L1b data

χ^2 plot of Ozone column DOAS fit using old ECS2 L1b data



Quality new Collection 3 L1b data

χ^2 plot of Ozone column DOAS fit using new Collection3 L1b data



Overview of Collection 3 Data Production



- **OMI SIPS:**

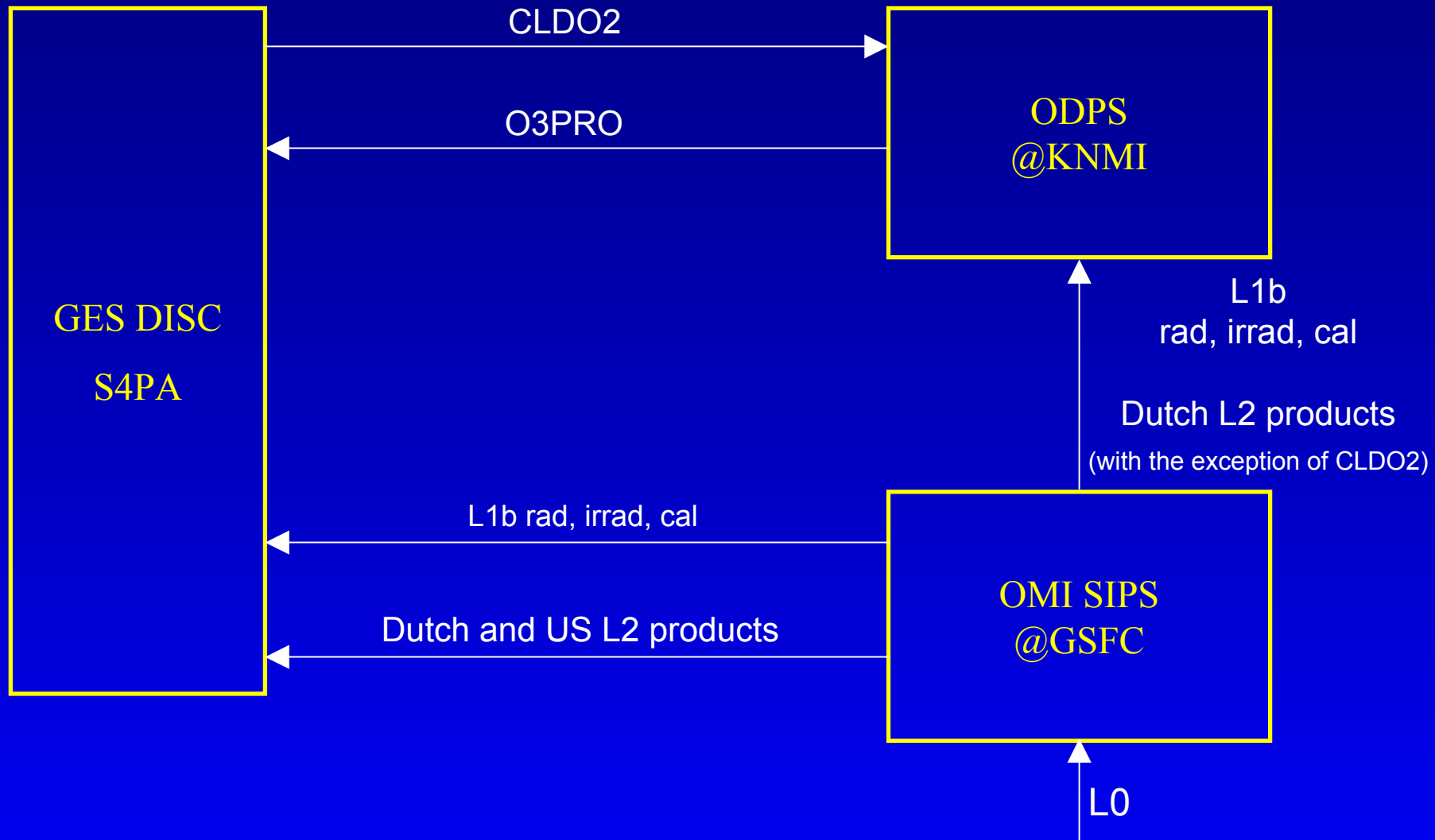
- Generating OML1B* in forward stream
- Sending OML1B*, OMCLDO2 and OMDOAO3 to the Goddard DISC S4PA archive
- Ready to send OMT03 and OMSO2, pending PI approval

- **ODPS:**

- Generating OMO3PRO (not released yet, expected in Fall 2007)



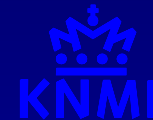
Collection 3 L1b and L2 data flows



Overview of Collection 3 OMI L2 products in forward stream

L2 products (Dutch)	Version	Status (per September 27 th)
OMCLDO2	1.0.5.2	Data publicly released to DISC
OMDOAO3	1.0.5.2	Data publicly released to DISC
OMNO2A	1.0.5.2	Data released to KNMI
OMAERO	1.0.6	Delivered for Collection 3 but not yet running
OMO3PRO	1.0.5	Data about to be released provisionally
L2 products (US)		
OMTO3	1.0.8	Ready for public release to DISC pending PI approval
OMSO2	1.0.3	Ready for public release to DISC pending PI approval
OMAERUV	1.0.9	Delivered for Collection 3 but not running
OMCLDRR	1.4.0	Delivered for Collection 3 but not yet running
OMNO2	TBD	Not yet delivered for Collection 3
OMBRO	TBD	Not yet delivered for Collection 3
OMHCHO	TBD	Not yet delivered for Collection 3
OMOCLO	TBD	Not yet delivered for Collection 3

OMI SIPS Near Real Time Processing



- OMI SIPS' most popular products
- Currently running with ECS2 software but transitioning to Collection 3 during Fall 2007
- Sending NRT Level 2 products to 6 external customers (KNMI, ECMWF, UKMet Office, NRL, NOAA, NASA LaRC)
- Routinely supporting flight planning for ground campaigns

